



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,668	12/10/2001	Jorg Womer	31833-173902	2237

26694 7590 03/22/2004

VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER

ALLEN, DENISE S

ART UNIT PAPER NUMBER

2872

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/006,668

Applicant(s)

WORNER ET AL.

Examiner

Denise S Allen

Art Unit

2872

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 12-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 – 20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen et al in view of Shioya et al (US 5,942,824).

Regarding claim 1, Reddersen et al teaches an optoelectronic device (Figure 12 reference 2) for detecting labels with contrast patterns (column 1 lines 40 – 55), said device comprising: a transmitter (Figure 12 reference 82) that emits light rays, said transmitted light rays scanning the contrast patterns of the labels (column 10 lines 64 – 66); a receiver (Figure 12 reference 74) that receives light rays reflected by the labels (column 10 lines 53 – 55) and generates electrical receiving signals corresponding to the received light rays (column 16 lines 38 – 46 and 61 – 65); an evaluation device (Figure 12 references 53 and 80) for evaluating the electrical receiving signals at the receiver (column 16 lines 38 – 46); and a deflection unit (Figure 11) including a polygonal mirror wheel (reference 52), and a motor (column 9 lines 34 – 35) that drives the polygonal mirror wheel, said transmitted light rays being guided over said polygonal mirror wheel to scan the contrast patterns of the labels (Figure 10b) and said received light rays being

Art Unit: 2872

guided over said polygonal mirror wheel (Figure 17), wherein said motor has a shaft (Figure 11 reference 57), a magnet (reference 55) on said shaft and a coil (reference 58), said coil being spaced from said magnet (column 9 lines 43 – 46) and said magnet operating jointly with said coil (column 9 lines 54 – 55). Reddersen et al does not teach the magnet is injected-molded.

Shioya et al teaches a deflection unit (Figure 1) including a polygonal mirror wheel (reference 106), and a motor (column 14 lines 47 – 49) that drives the polygonal mirror wheel, wherein said motor has a shaft (reference 86), an injection-molded magnet (reference 88) that is molded on said shaft (Figure 18) and a coil (reference 70), said coil being spaced from said magnet (column 15 line 66 – column 16 line 3) and said magnet operating jointly with said coil (column 16 lines 1 – 56). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the deflection unit of Reddersen et al with the deflection unit of Shioya et al in order to improve reliability of operation of the deflector unit in the optoelectronic device (Shioya et al column 5 lines 15 – 23).

Regarding claim 2, Reddersen et al teaches the optoelectronic device further comprising a printed circuit board (Figure 12 reference 53) wherein said motor rests on said printed circuit board (Figures 11 and 12) and said evaluation device is integrated into the printed circuit board (column 18 lines 22 – 28). Shioya et al also teaches a printed circuit board (reference 68) wherein the motor rests on the printed circuit board.

Regarding claim 3, Shioya et al teaches said shaft rotates inside a bearing (references 62 and 86, column 16 lines 47 – 53), said shaft being connected to said printed circuit board via said bearing (Figure 1).

Art Unit: 2872

Regarding claim 4, Shioya et al teaches a tube (reference 76) that projects from the top of said printed circuit board (reference 68) wherein said bearing is positioned inside said tube (Figure 1).

Claims 9 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen et al in view of Shioya et al and further in view of Loya.

Regarding claim 9, Reddersen et al in view of Shioya et al teaches an optoelectronic device as described above. Reddersen et al and Shioya et al do not teach said polygonal mirror wheel comprises an injection-molded plastic part and mirror surfaces provided on a shell surface of the plastic part for deflecting the transmitted light rays and the received light rays.

Loya teaches a polygonal mirror wheel (Figure 1 reference 24) comprising an injection-molded plastic part and mirror surfaces provided on a shell surface of the plastic part (column 4 lines 47 – 49) for deflecting the transmitted light rays and the received light rays (Figure 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the polygonal mirror wheel of Loya in the optoelectronic device of Reddersen et al in view of Shioya et al in order to reduce the cost of the polygonal mirror wheel.

Regarding claim 10, Reddersen et al teaches said polygonal mirror wheel (Figure 11 references 52) includes a circular disk segment (circular segment on top of reference 52) and side walls (hexagonal segment around circular segment of reference 52) that project downward from edges of the circular disk segment, said mirror surfaces being deposited on the side walls that project downward from segment edge.

Art Unit: 2872

Regarding claim 11, Reddersen et al teaches the circular disk segment of said polygonal mirror wheel (Figure 11 reference 52) rests on a top surface (reference 54) of said magnet (reference 55).

Allowable Subject Matter

Claims 5 – 8 and 12 – 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5 – 8 and 12 – 20 are allowable over the prior art for at least the reason the prior art fails to teach and/or suggest the lower portion of the shaft is inserted in a bearing bore in the bearing as set forth in the claimed combination.

Claim 21 is allowable over the prior art for at least the reason the prior art fails to teach and/or suggest the injection-molded magnet has an outside contour that is adapted to an inside contour of the polygonal mirror wheel so that the polygonal mirror wheel is directly fitted onto the injection-molded magnet as set forth in the claimed combination.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise S Allen whose telephone number is (571) 272-2305. The examiner can normally be reached on Monday - Friday, 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



dsa

Denise S Allen
Examiner
Art Unit 2872



Audrey Chang
Primary Examiner
Technology Center 2800